



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:
2001/01247

November 8, 2002

Mr. Lawrence C. Evans
Portland District, Corps of Engineers
CENWO-OP-GP (Monical)
P.O. Box 2946
Portland, OR 97208-2946


Re: Endangered Species Act Section 7 Emergency Consultation and Magnuson-Stevens Act
Essential Fish Habitat Consultation for the Two Possetti Road Emergency Bank
Stabilization Projects, Tillamook River Basin, Tillamook County, Oregon (Corps No.
2001-00987).

Dear Mr. Evans

Enclosed is a biological opinion (Opinion) prepared by the National Marine Fisheries Service (NOAA Fisheries) pursuant to section 7 of the Endangered Species Act (ESA) for the Possetti Road Emergency Bank Stabilization Projects, Tillamook County, Oregon. NOAA Fisheries concludes in this Opinion that the emergency actions did not jeopardize Oregon Coast (OC) coho salmon (*Oncorhynchus kisutch*). NOAA Fisheries provided the U.S. Army Corps of Engineers (Corps) with conservation recommendations to minimize adverse effects and the potential for incidental take during the emergency actions. The Corps included these conservation recommendations as conditions of the emergency authorizations. This Opinion also serves as consultation on essential fish habitat (EFH) pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act and its implementing regulations (50 CFR 600).

Please direct any questions regarding this letter to Robert Anderson of my staff in the Oregon Habitat Branch at 503.231.2226.

Sincerely,


for D. Robert Lohn
Regional Administrator



Endangered Species Act - Section 7
Consultation
and
Magnuson-Stevens Act
Essential Fish Habitat Consultation

Emergency Biological Opinion

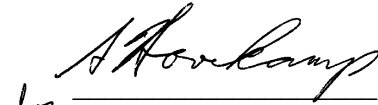
Two Possetti Road Emergency Bank Stabilization Projects,
Tillamook River Basin, Tillamook County, Oregon
(Corps No. 2001-00987)

Agency: U.S. Army Corps of Engineers

Consultation
Conducted by: National Marine Fisheries Service,
Northwest Region

Date Issued: November 8, 2002

Issued by:


for D. Robert Lohn
Regional Administrator

Refer to: 2001/01247

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1. ENDANGERED SPECIES ACT

1.1 Background and Consultation History

On December 27, 2001, and January 31, 2002, the Tillamook County Public Works Department (County) requested emergency authorization from the Corps to repair two sections of streambank that support a flood control levee along the Kilchis River that failed due to heavy rainfall. On December 28, 2001, and February 1, 2002, the National Marine Fisheries Service (NOAA Fisheries) received a request from the U.S. Army Corps of Engineers (Corps) to provide conservation recommendations for the two Possetti Road Emergency Bank Stabilization Projects (milepost 0.268 and milepost 0.312, respectively) at river-mile 1.5 on the Kilchis River, under the Endangered Species Act (ESA) and Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

NOAA Fisheries provided the following conservation recommendations for each emergency action.

Milepost 0.268 Emergency Repair Recommendations.

Recommendation No. 1: The Corps should ensure that work will occur in the dry to the greatest extent possible (*e.g.*, construct toe of slope during low-tide).

Recommendation No. 2: The Corps should limit the scope of the action to that length of bank necessary to stabilize bank loss.

Recommendation No. 3: The Corps should ensure that only that volume of rock riprap necessary to stabilize the affected bank be used.

Recommendation No. 4: The Corps should ensure that rock will be individually placed in a way that produces an irregularly contoured face to provide velocity disruption. Do not allow end dumping.

Recommendation No. 5: The Corps should ensure that any in-stream large wood remain on site. Any removal of existing wood, including root wads, should be mitigated. Mitigation may include placement of removed wood in another acceptable in-stream location.

Recommendation No. 6: The Corps should ensure that the bankline will be revegetated using natural vegetation.

Recommendation No. 7: The Corps should ensure that all work will be completed within the ODFW recommended in-water work period (November 1 to February 15).

Recommendation No. 8: The Corps should ensure that material removed during excavation will only be placed in locations where it cannot enter streams or other water bodies.

Recommendation No. 9: The Corps should ensure that all exposed or disturbed areas will be stabilized to prevent erosion. Areas of bare soil within 150 feet of waterways, wetlands or other sensitive areas should be stabilized by native seeding, mulching, and placement of erosion control blankets and mats, if applicable, quickly as reasonable after exposure, but within 7 days of exposure. All other areas should be stabilized quickly as reasonable, but within 14 days of exposure. Seeding outside of the growing season should not be considered adequate nor permanent stabilization.

Recommendation No. 10: The Corps should reduce the potential for contamination of water resources by limiting vehicle maintenance, re-fueling of vehicles and storage of fuel to a minimum 150 feet from wetlands and waterways, and develop a spill containment and control plan in the unlikely event of a spill.

Recommendation No. 11: The Corps should ensure that plantings will achieve an 80 percent survival success after three years. Fencing should be installed as necessary to prevent access to revegetated sites by livestock or unauthorized persons. If success standard has not been achieved after 3 years, the applicant should submit an alternative plan to the Corps. The alternative plan should address temporal loss of function.

Recommendation No. 12: The Corps should ensure that no herbicides or surface application of fertilizers will occur as part of this permitted action.

Milepost 0.312 Emergency Repair Recommendations.

Recommendation No. 1: The Corps should ensure that work will occur in the dry to the greatest extent possible (*e.g.*, construct toe of slope during low-tide).

Recommendation No. 2: The Corps should limit the scope of the action to that length of bank necessary to temporarily stabilize bank loss during winter 2002 high flows.

Recommendation No. 3: The Corps should require an evaluation of the erosion cause to identify the extent of the road segment problem and a permanent solution. Relocation of the roadway should be considered.

Recommendation No. 4: The Corps should encourage the integration of bioengineering in any permanent solution proposed for the road segment.

Recommendation No. 5: The Corps should give consideration to limiting vehicle weight on the affected section of roadway until a permanent solution can be developed.

Recommendation No. 6: The Corps should ensure that only that volume of rock riprap necessary to temporarily stabilize the effected bank be used.

Recommendation No. 7: The Corps should ensure that rock will be individually placed in a way that produces an irregularly contoured face to provide velocity disruption. Do not allow end dumping.

Recommendation No. 8: The Corps should ensure that any in-stream large wood remain on site. Any removal of existing wood, including root wads, should be mitigated. Mitigation may include placement of removed wood in another acceptable in-stream location.

Recommendation No. 9: The Corps should ensure that all work below mean higher high water (MHHW) will be completed within the ODFW-recommended in-water work period (November 1 to February 15).

Recommendation No. 10: The Corps should ensure that material removed during excavation will only be placed in locations where it cannot enter streams or other water bodies.

Recommendation No. 11: The Corps should ensure that all exposed or disturbed areas will be stabilized to prevent erosion. Areas of bare soil within 150 feet of waterways, wetlands or other sensitive areas should be stabilized by native seeding, mulching, and placement of erosion control blankets and mats, if applicable, quickly as reasonable after exposure, but within 7 days of exposure. All other areas should be stabilized quickly as reasonable, but within 14 days of exposure. Seeding outside of the growing season should not be considered adequate nor permanent stabilization.

Recommendation No. 12: The Corps should reduce the potential for contamination of water resources by limiting vehicle maintenance, re-fueling of vehicles and storage of fuel to a minimum 150 feet from wetlands and waterways, and develop a spill containment and control plan in the unlikely event of a spill.

On July 1, 2002, NOAA Fisheries received a letter from the Corps requesting consultation pursuant to the ESA for the emergency actions. Enclosed with the letter was a biological assessment (BA) describing the emergency actions and potential effects that may have occurred from the emergency actions. The Corps determined that the emergency actions adversely affected Oregon Coast (OC) coho salmon (*Oncorhynchus kisutch*), an ESA-listed species.

This biological opinion (Opinion) considers the effects of the emergency actions on OC coho salmon. OC coho salmon were listed as threatened under the ESA on August 10, 1998 (63 FR 42587) and protective regulations were issued on July 10, 2000 (65 FR 42422). The objective of this Opinion is to determine whether the emergency actions were likely to jeopardize the continued existence of OC coho salmon. This consultation is conducted pursuant to section 7(a)(2) of the ESA and its implementing regulations, 50 CFR 402.

1.2 Actions as Implemented

The conservation recommendations identified in section 1.1 above were provided by the Corps to the County as conditions of their authorization of the emergency actions.

Milepost 0.268.

The completed stabilization area measures 25 feet long and 10 feet high using rock measuring 2 to 3 feet in diameter. Fine grain materials were incorporated into the fill to promote establishment of riparian vegetation. The footprint of the revetment was confined to pre-emergency conditions. The total volume of fill material used was 90 cubic yards (CYs), approximately 30 CYs of which were placed below MHHW. Willow stakes were incorporated into the revetment during construction.

Milepost 0.312.

The completed stabilization area measures 33 feet long and 9 feet high using rock measuring 2 to 3 feet in diameter. Fine grain materials were incorporated into the fill to promote establishment of riparian vegetation. The footprint of the revetment was confined to pre-emergency conditions. The total volume of fill material used was 85 CYs. Approximately 30 CYs of fill was placed below MHHW. Willow stakes were incorporated into the revetment during construction.

1.3 Biological Information

The timing of life history events of OC coho salmon in the Kilchis River Watershed is summarized in Table 1.

Table 1. OC coho salmon life history events (Weitkamp 1995).

	J	F	M	A	M	J	J	A	S	O	N	D
RIVER ENTRY												
SPAWNING												
INTRAGRAVEL DEVELOPMENT												
JUVENILE REARING												
JUVENILE OUT-MIGRATION												

Estimated escapement of coho salmon in coastal Oregon was about 1.4 million fish in the early 1900s, with harvest of nearly 400,000 fish (Weitkamp *et al.* 1995). Abundance of wild OC coho salmon declined during the period from about 1965 to 1975, and has fluctuated at a low level since that time (Nickelson *et al.* 1992). Lichatowich (1989) concluded that production potential (based on stock-recruit models) for OC coho salmon in coastal Oregon rivers was only about 800,000 fish, and he associated this decline with a reduction of nearly 50% in habitat capacity. Current abundance of coho on the Oregon coast may be less than 5% of that in the early part of

this century. Recent spawner abundance in this evolutionarily significant unit (ESU) has ranged from about 20,000 adults in 1990 to near 80,000 adults in 1996, and an estimated 47,400 adult coho in 1999 (Jacobs *et al.* 2001).

The OC coho salmon ESU is disproportionately distributed throughout its range. OC coho salmon escapements within the northern (including the Kilchis River) and mid-coast basins have averaged 39.8% over the 1990-1999 period of record. While OC coho salmon escapements within the southern basins have averaged 60.2% over the 1990-1999 period of record (Jacobs *et al.* 2001). Reasons for this high productivity are probably related to additional rearing opportunities associated with the lake environments in the southern basins, and the relative size of the watersheds within these respective basins (Jacobs *et al.* 2001).

1.4 Evaluating Proposed Actions

The standards for determining jeopardy are set forth in section 7(a)(2) of the ESA as defined by 50 CFR 402. NOAA Fisheries must determine whether the action is likely to jeopardize the listed species. This analysis involves the initial steps of defining the biological requirements and current status of the listed species, and evaluating the relevance of the environmental baseline to the species' current status.

Subsequently, NOAA Fisheries evaluates whether the action is likely to jeopardize the listed species by determining if the species can be expected to survive with an adequate potential for recovery. In making this determination, NOAA Fisheries must consider the estimated level of mortality attributable to: (1) Collective effects of the emergency actions; (2) the environmental baseline; and (3) any cumulative effects. This evaluation must take into account measures for survival and recovery specific to the listed salmonid's life stages that occur beyond the action area. If NOAA Fisheries finds that the action is likely to jeopardize the listed species, NOAA Fisheries must identify reasonable and prudent alternatives for the action.

For emergency actions, NOAA Fisheries' jeopardy analysis considers direct or indirect mortality of fish attributable to the actions. NOAA Fisheries considers the extent to which the emergency actions impair the function of essential elements necessary for juvenile and adult migration, spawning, and rearing of OC coho salmon under the existing environmental baseline. NOAA Fisheries' essential fish habitat (EFH) analysis considers the effects of the emergency actions on EFH and associated species and their life history stages, including cumulative effects and the magnitude of such effects.

1.4.1 Biological Requirements

The first step in the methods NOAA Fisheries uses for applying the ESA to listed salmon is to define the biological requirements of the species most relevant to each consultation. NOAA Fisheries also considers the current status of the listed species taking into account population size, trends, distribution and genetic diversity. To assess the current status of the listed species,

NOAA Fisheries starts with the determinations made in its decision to list OC coho salmon for ESA protection and also considers new data available that are relevant to the determination.

The relevant biological requirements are those necessary for OC coho salmon to survive and recover to naturally-reproducing population levels at which time protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance their capacity to adapt to various environmental conditions, and allow them to become self-sustaining in the natural environment.

For this consultation, the biological requirements are improved habitat characteristics that function to support successful rearing and migration. The current status of OC coho salmon, based upon their risk of extinction, has not significantly improved since the species was listed and, in some cases, their status may have worsened.

1.4.2 Environmental Baseline

The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area (project area) involved in the proposed action (50 CFR 402.02). The direct effects occur at the project site and may extend throughout the watershed based on the potential for displacement of rearing coho salmon, injury to or killing of coho salmon, elevated levels of total suspended solids (concentration and duration), and pollutant discharge into the Kilchis River. Indirect effects may occur beyond the project site where actions described in this Opinion lead to additional activities or affect ecological functions contributing to aquatic habitat degradation. For this consultation, the action area is defined as the Kilchis River from the confluence with Tillamook Bay to river mile 1.55, and includes the channel migration zone (CMZ).

Land uses in the action area include urban, residential, and agricultural. Riparian areas and stream channels in coastal watersheds have been damaged by development activities related to these land uses as well as by the use of splash dams, stream cleaning, and gravel mining (FEMAT 1993, Botkin *et al.* 1995, OCSRI 1997). Habitat changes that have contributed to the decline of OC coho in the action area include: (1) Reduced biological, chemical, and physical connectivity between streams, riparian areas, flood plains, and uplands; (2) elevated fine sediment loads; (3) reduced in-stream and riparian large woody debris, which traps sediments, stabilizes streambeds and streambanks, and forms complex in-stream structure; (4) reduced vegetative canopy; (5) changed stream channel morphology; (6) degraded water quality; (7) altered base and peak stream flows; and (8) fish passage impediments (OCSRI 1997).

The Kilchis River is on the Oregon Department of Environmental Quality (ODEQ) 303(d) List of Water Quality Limited Water Bodies for bacteria and temperature.

Regulations implementing section 7 of the ESA (50 CFR 402.02) define the environmental baseline as the past and present impacts of all Federal, state, or private actions and other human activities in the action area. The environmental baseline also includes the anticipated effects of

all proposed Federal projects in the action area that have undergone section 7 consultation, and the impacts of state and private actions that are contemporaneous with the consultation in progress.

NOAA Fisheries concludes that not all of the biological requirements of the subject species within the action area are being met under current conditions. Based on the best available information on the status of the affected species (population status, trends, and genetics, and the environmental baseline conditions within the action area) significant improvement in habitat conditions over those currently available under the environmental baseline is needed to meet the biological requirements for survival and recovery of these species.

1.5 Analysis of Effects

1.5.1 Effects of Emergency Actions

Specific effects of the emergency actions to OC coho salmon and their habitat are largely unquantifiable due to lack of on-the-ground monitoring of construction activities during project implementation or submission of a post-construction report on the effects of the emergency actions to OC coho salmon and their habitat. Likely effects to OC coho salmon and their habitat include increases in water column concentrations of total suspended solids (short term), altered stream hydraulics (long term), and petrochemical spills (short term); and likely include direct effects (mortality, injury, and displacement) to OC coho salmon from project implementation within the action area.

1.5.1.1 Total Suspended Solids

The emergency actions likely resulted in short-term adverse effects to OC coho salmon and OC coho salmon habitat from temporary increases in elevated concentrations of total suspended solids. The potential effects of exposure to elevated concentrations in total suspended solids on OC coho salmon include, but are not limited to reduction in feeding rates, mortality, physiological stress, changes in behavior, lethal reduction in macroinvertebrate population size, and some potential beneficial effects.

Total suspended solids and turbidity [defined as a measurement of relative clarity due to an increase in undissolved particles (suspended solids)] influences on fish reported in the literature range from beneficial to detrimental. Beneficial effects associated with temporary increases in total suspended solids includes: A reduction in piscivorous fish/bird predation rates, enhanced cover conditions, and improved survival conditions. Increases in total suspended solids have also been reported to cause physiological stress, reduce growth, reduce survival, and reduced light penetration.

Salmonids have been observed to move laterally and downstream to avoid turbid plumes (Sigler *et al.* 1984, Lloyd 1987, Servizi and Martens 1991). Juvenile salmonids tend to avoid streams that are chronically turbid, such as glacial streams or those disturbed by human activities, except

when the fish must traverse these streams along migration routes (Lloyd *et al.* 1987). In addition, a potential positive affect is providing refuge and cover from predation; fish that remain in turbid waters experience a reduction in predation from piscivorous fish and birds (Gregory and Levings 1998). In habitats with intense predation pressure, this provides a beneficial trade-off (*e.g.*, enhanced survival) to the cost of potential physical effects (*e.g.*, reduced growth).

Exposure duration is a critical determinant of the occurrence and magnitude of physical or behavioral effects (Newcombe and MacDonald 1991). Salmonids have evolved in systems that periodically experience short-term pulses (days to weeks) of high suspended sediment loads, often associated with floods, and are adapted to such high pulse exposures. Adult and larger juvenile salmonids appear to be little affected by the high concentrations of suspended sediments that occur during storm and snowmelt runoff episodes (Bjornn and Reiser 1991). However, chronic exposure can cause physiological stress that can increase maintenance energy and reduce feeding and growth (Redding *et al.* 1987, Lloyd 1987, Servizi and Martens 1991).

Turbidity, at moderate levels, has the potential to reduce primary and secondary productivity, and at high levels, has the potential to injure and kill adult and juvenile fish, and may also interfere with feeding (Spence *et al.* 1996, Bjornn and Reiser 1991). Other behavioral effects on fish, such as gill flaring and feeding changes, have been observed in response to pulses of suspended sediment (Berg and Northcote 1985). Fine redeposited sediments also have the potential to reduce primary and secondary productivity (Spence *et al.* 1996), and to reduce incubation success and cover for juvenile salmonids (Bjornn and Reiser 1991).

Increases in total suspended solids can adversely affect filter-feeding macroinvertebrates and fish. At concentrations of 53 to 92 ppm (24 hours) Gammon (1970) reported reductions in macroinvertebrate population sizes. At concentrations of 250 ppm (1 hour) Noggle (1978) reported a 95% reduction in feeding rates in juvenile coho salmon. At concentrations of 1200 ppm (96 hours) mortality to juvenile coho salmon were reported (Noggle 1978). Concentrations of 53.5 ppm (12 hours) caused physiological stress and changes in behavior in coho salmon (Berg 1983). Concentrations and exposure times from in-water work activities that meet or exceed these effect levels are reasonably certain to harm OC coho salmon present in the action area. Effects to juvenile OC coho salmon from turbid waters is likely to occur during initial pulses of suspended solids associated with the start of in-water work activities. OC coho salmon are likely to avoid waters that are chronically turbid, and therefore adverse effects are less likely after initial exposure.

1.5.1.2 Stream Hydraulics

Rivers are dynamic systems that perpetually alter their courses in response to multiple physical features. Levees and roadways constructed along rivers are subject to flooding and undercutting as a result of natural changes in riverine dynamics. Effects on riverine processes from bank hardening include stream channel simplification, altered hydraulic processes, and constrained stream channel migration (reduced sinuosity). Bank hardening may shift erosion points either

upstream, due to headcutting, or downstream, due to transfer of stream energy. Bank hardening can also cause an increase in stream velocities that contribute to channel incision and streambank failure.

Fish habitats are enhanced by the diversity of habitats at the land-water interface and adjacent bank (USACE 1977). As erosive forces affect different locations and bank hardening occurs in response, the river eventually attains a continuous fixed alignment lacking habitat complexity (USACE 1977). Riparian vegetation provides shade that reduces water temperatures by reducing solar radiation. Overhanging branches provide cover from predators, and organisms that fall from overhanging branches provide food for fish, or provide food sources for other prey organisms. Immersed vegetation, logs, and root wads provide points of attachment for aquatic prey organisms, provide high flow refugia, retain bed load materials, and reduce flow velocity.

The removal of large woody materials, excavation of bed load materials, placement of rip rap, loss of riparian vegetation, and channel relocation all represent a simplification of habitat.

1.5.1.3 Petrochemicals

As with all construction activities, accidental release of petrochemicals and toxic substances into the physical environment may occur. Petroleum-based contaminants (such as fuel, oil, and some hydraulic fluids) contain polycyclic aromatic hydrocarbons (PAHs) which can cause sublethal, such as immune dysfunction, as well as lethal effects to salmonids and other aquatic organisms, depending upon concentration, duration, species life-stage, and organism (Neff 1985).

1.5.2 Cumulative Effects

Cumulative effects are defined in 50 CFR 402.02 as "those effects of future state or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." Other activities within the watershed have the potential to affect fish and habitat within the action area. Future Federal actions, including the ongoing operation of hatcheries, fisheries, and land management activities are being (or have been) reviewed through separate section 7 consultation processes.

NOAA Fisheries assumes that future private and state actions will continue within the action area, increasing as population density rises.

1.6 Conclusion

The emergency actions are reasonably certain to have caused minor degradation of anadromous salmonid habitat due to streambank hardening (riprap), and temporarily elevated water column concentrations of total suspended solids. Fish may have been killed, or more likely temporarily displaced, by in-water work activities for a brief period. NOAA Fisheries has determined that, based on the available information, the Possetti Road Emergency Bank Stabilization Projects are not likely to jeopardize the continued existence of OC coho salmon. NOAA Fisheries used the

best available scientific and commercial data to apply its jeopardy analysis, and analyzed the effects of the emergency actions on the biological requirements of the species relative to the environmental baseline, together with cumulative effects.

1.7 Conservation Recommendations

Section 7(a)(1) of the ESA directs Federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of threatened and endangered species. Conservation recommendations are discretionary measures suggested to minimize or avoid adverse effects of a proposed action on listed species and to develop additional information. NOAA Fisheries believes the following conservation recommendations are consistent with these obligations, and therefore should be carried out by the Corps.

1. The Corps should require, as a condition of an emergency authorization, applicants to submit a post-construction report that includes an analysis of the biological, chemical, and physical effects of the action on ESA-listed species and their habitat.
2. The Corps should require, as a condition of an emergency authorization, compensatory mitigation for actions with long-term adverse effects, such as structures built entirely or primarily of rock. Compensatory mitigation should include planting additional woody riparian vegetation equal to or greater than the total area adversely effected, and the mitigation should occur within the same river reach if possible.

1.8 Reinitiation of Consultation

This concludes formal consultation on these actions in accordance with 50 CFR 402.14(b)(1). The Corps must reinitiate consultation if: (1) If the amount or extent of incidental take is exceeded, (2) the action is modified in a way that causes an effect on the listed species that was not previously considered in the biological assessment and this Opinion, (3) new information or project monitoring reveals effects of the action that may affect the listed species in a way not previously considered, or (4) a new species is listed or critical habitat is designated that may be affected by the action (50 CFR 402.16).

2. INCIDENTAL TAKE STATEMENT

Section 9 and rules promulgated under section 4(d) of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. “Harm” is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. “Harass” is defined as actions that create the likelihood of injuring listed species by annoying it to such an extent as to significantly alter normal behavior patterns which include, but are not limited to,

breeding, feeding, and sheltering. “Incidental take” is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement

2.1 Amount or Extent of Take

NOAA Fisheries concludes that the emergency actions covered by this Opinion were reasonably certain to result in incidental take (lethal and non-lethal) of OC coho salmon and their habitat as a result of: (1) Emergency in-water work construction activities; (2) mortality, injury, or displacement of OC coho salmon; and (3) temporary increases in water column concentrations of total suspended solids. Take in association with water quality changes and streambank hardening is largely unquantifiable, although is reasonably certain based on the analysis in section 1.5. The extent of lethal and non-lethal take for this Opinion is limited to take resulting from activities undertaken as described in this Opinion that occur in the action area; the Kilchis River from the confluence with Tillamook Bay to river mile 1.55, and including the CMZ.

3. MAGNUSON-STEVENSON ACT

3.1 Background

On, July 1, 2002, NOAA Fisheries received a letter from the U.S. Army Corps of Engineers (Corps) requesting essential fish habitat (EFH) consultation pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (MSA) for the subject actions. The objective of the EFH consultation is to determine whether the proposed action may adversely affect designated EFH for relevant species, and to recommend conservation measures to avoid, minimize, or otherwise offset potential adverse effects to EFH resulting from the proposed action. This consultation is undertaken pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) and its implementing regulations (50 CFR 600).

3.2 Magnuson-Stevens Fishery Conservation and Management Act

The MSA, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires the inclusion of EFH descriptions in Federal fishery management plans. In addition, the MSA requires Federal agencies to consult with NOAA Fisheries on activities that may adversely affect EFH.

EFH means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (MSA §3). For the purpose of interpreting the definition of essential fish habitat: “Waters” include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; “substrate” includes sediment, hard bottom, structures underlying the waters, and

associated biological communities; “necessary” means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and “spawning, breeding, feeding, or growth to maturity” covers a species' full life cycle (50 CFR 600.110).

Section 305(b) of the MSA (16 U.S.C. 1855(b)) requires that:

- Federal agencies must consult with NOAA Fisheries on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH;
- NOAA Fisheries shall provide conservation recommendations for any Federal or state activity that may adversely affect EFH;
- Federal agencies shall within 30 days after receiving conservation recommendations from NOAA Fisheries provide a detailed response in writing to NOAA Fisheries regarding the conservation recommendations. The response shall include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with the conservation recommendations of NOAA Fisheries, the Federal agency shall explain its reasons for not following the recommendations.

The MSA requires consultation for all actions that may adversely affect EFH, and does not distinguish between actions within EFH and actions outside EFH. Any reasonable attempt to encourage the conservation of EFH must take into account actions that occur outside EFH, such as upstream and upslope activities, that may have an adverse effect on EFH. Therefore, EFH consultation with NOAA Fisheries is required by Federal agencies undertaking, permitting or funding activities that may adversely affect EFH, regardless of its location.

3.3 Identification of EFH

The Pacific Fisheries Management Council (PFMC) has designated EFH for three species of Pacific salmon: Chinook (*Oncorhynchus tshawytscha*); coho (*O. kisutch*); and Puget Sound pink salmon (*O. gorbuscha*) (PFMC 1999). Freshwater EFH for Pacific salmon includes all those streams, lakes, ponds, wetlands, and other water bodies currently, or historically accessible to salmon in Washington, Oregon, Idaho, and California, except areas upstream of certain impassable man-made barriers (as identified by the PFMC), and longstanding, naturally-impassable barriers (*i.e.*, natural waterfalls in existence for several hundred years). Detailed descriptions and identifications of EFH for salmon are found in Appendix A to Amendment 14 to the *Pacific Coast Salmon Plan* (PFMC 1999). Assessment of potential adverse effects to these species' EFH from the proposed action is based on this information.

3.4 Emergency Actions

The emergency actions are detailed above in section 1.2 of this document. For this consultation, the action area is defined as the Kilchis River from the confluence with Tillamook Bay to river mile 1.55, and including the CMZ. This area has been designated as EFH for various life stages of chinook salmon and coho salmon.

3.5 Effects of Emergency Actions

The emergency actions are reasonably certain to have caused degradation of EFH due to in-water work construction activities, temporary increases in water column concentrations of total suspended solids, and a loss of benthic and rearing habitat.

3.6 Conclusion

NOAA Fisheries believes that the emergency actions adversely affected the EFH for chinook and coho salmon.

3.7 EFH Conservation Recommendations

Pursuant to section 305(b)(4)(A) of the Magnuson-Stevens Act, NOAA Fisheries is required to provide EFH conservation recommendations for any Federal or state agency action that would adversely affect EFH. The conservation recommendations provided to the Corps on December 31, 2001, and February 1, 2002, as outlined above in section 1.2, are each incorporated here by NOAA Fisheries as EFH conservation recommendations.

3.8 Statutory Response Requirement

Please note that the Magnuson-Stevens Act (section 305(b)) and 50 CFR 600.920(j) requires the Federal agency to provide a written response to NOAA Fisheries after receiving EFH conservation recommendations within 30 days of its receipt of this letter. This response must include a description of measures proposed by the agency to avoid, minimize, mitigate or offset the adverse impacts of the activity on EFH. If the response is inconsistent with a conservation recommendation from NOAA Fisheries, the agency must explain its reasons for not following the recommendation.

3.9 Supplemental Consultation

The Corps must reinitiate EFH consultation with NOAA Fisheries if either emergency action was substantially revised or new information becomes available that affects the basis for NOAA Fisheries' EFH conservation recommendations (50 CFR 600.920).

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